

REMARKS

Claims 9, 10 and 16-25 are presented for consideration. Claims 16 and 22 are the independent claims.

Claims 1-8 and 11-15 have been canceled and replaced with claims 16-25, in order to better set forth Applicant's claimed invention. As will be appreciated, the new claims are directed to the elected invention of Species I. In that regard, support for the claims can be found, for example, in Figure 1 and the specification beginning in paragraph [0034] on page 10.

Claims 5, 6 and 13 were objected to for lacking proper antecedent basis. This objection is deemed to be moot in view of the cancellation of these claims.

Claims 1-4 and 7-13 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hara '139. Claims 14 and 15 stand rejected under 35 U.S.C. § 103 as allegedly being obvious over Hara. Finally, claims 5 and 6 stand rejected as allegedly being obvious over Hara in view of Emoto '248. These rejections are deemed to be moot in view of the cancellation of claims 1-8 and 11-15. Moreover, new claims 16-25, as well as claims 9 and 10, are submitted to be patentable over the cited art.

In claim 16, a stage apparatus comprises a moving unit, a linear motor which drives the moving unit along a surface of a base plate and includes a coil unit in the moving unit, and a gas bearing which supports the moving unit on the base plate. In addition, a heat exchanger cools the coil unit and is provided in the moving unit, wherein the heat exchange cools a gas used by the gas bearing.

Claim 22 relates to a stage apparatus that includes a first moving unit, a linear motor which drives the first moving unit along a surface of a base plate and includes a coil unit in the first moving unit, and a second moving unit which moves with respect to the first moving unit. Additionally, a heat exchanger is disposed between the first and second moving units and absorbs a heat transmission from the coil unit to the second moving unit.

In accordance with Applicant's claimed invention, a high performance stage apparatus can be provided.

Hara relates to a stage control arrangement in which a jacket is provided to surround coils in a stationary member of a linear motor. The Office Action asserts that Hara includes a base 61, a static bearing for supporting a moving unit 106, and a temperature controller provided in the moving unit which controls the temperature of gas supplied to the static bearing. As read by Applicant, Hara discloses supplying temperature controlled air through branch pipes 203a and 203b to the static gas bearing, which air is discharged from exhaust grooves.

In contrast to Applicant's claimed invention, however, Hara fails to teach or suggest, among other features, a heat exchanger which cools the coil unit and is provided in the moving unit. In Hara, the branch pipes 203a and 203b receive temperature controlled air from a compressed gas source 201 and a temperature controller 202 remote from the moving unit (see FIG. 6).

The secondary citation to Emoto '248 relates to a driving system for a stage system and was cited for its teaching of circulating a coolant in an opposite direction to the flow of gas

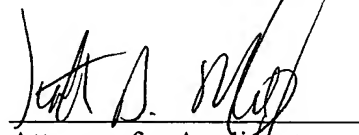
through a supply pipe. Emoto fails, however, to compensate for the deficiencies in Hara as discussed above.

Accordingly, it is submitted that Applicants' invention as set forth in independent claims 16 and 22 is patentable over the cited art. In addition, dependent claims 9, 10, 17-21 and 23-25 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

Thus, reconsideration and allowance of this application is deemed to be in order and such action respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,



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